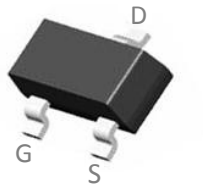
Description：

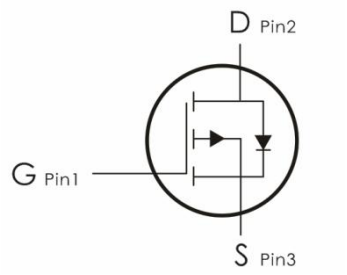
This P-Channel MOSFET uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.



Features：

1) V_{DS}=-100V,I_D=-3 A,$R_{DS(ON)}$<200m Ω @V_{GS}=-10V
2) Low gate charge.
3) Green device available.
4) Advanced high cell denity trench technology for ultra $R_{DS(ON)}$.
5) Excellent package for good heat dissipation.



Absolute Maximum Ratings：(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	-100	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current-T_A=25℃	-3	A
	Continuous Drain Current-T_A=100℃	-1.8	A
I_{DM}	Pulse Drain Current Tested[1]	-9	A
P_D	Power Dissipation-T_A=25℃	2.8	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	44.6	℃/W

Package Marking and Ordering Information：

Part NO.	Marking	Package
VH200PG	H200P	SOT-23-3

Electrical Characteristics: (T_C=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	-100	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=-100V	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V, V_{DS}=0A	---	---	±100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	-1.2	-1.6	-2.5	V
$R_{DS(ON)}$	Drain-Source On Resistance[1]	V_{GS}=-10V,I_D=-1.8A	---	180	200	mΩ
		V_{GS}=-4.5V,I_D=-1.5A	---	195	225	
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=-50V, V_{GS}=0V, f=1MHz	---	752	---	pF
C_{oss}	Output Capacitance		---	499	---	
C_{rss}	Reverse Transfer Capacitance		---	39	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time[2,3]	V_{DS}=-50V,R_{GEN}=25Ω, V_{GS}=-10V,I_D=-1.8A	---	14	---	ns
t_r	Rise Time[2,3]		---	5	---	ns
$t_{d(off)}$	Turn-Off Delay Time[2,3]		---	64	---	ns
t_f	Fall Time [2,3]		---	23	---	ns
Q_g	Total Gate Charge [2,3]	V_{GS}=-10V, V_{DS}=-80V, I_D=-1.8A	---	12	---	nC
Q_{gs}	Gate-Source Charge[2,3]		---	2.7	---	nC
Q_{gd}	Gate-Drain “Miller” Charge [2,3]		---	3.4	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Forward Voltage	V_{GS}=0V,I_S=-1A	---	---	-1	V
I_D	Continuous Drain Current	VG=VD=0V	---	---	-3	A
I_{DM}	Pulse Drain Current Tested	VG=VD=0V	---	---	-9	A
Trr	Reverse Recovery Time	VGS=0V, IS= -1A, di/dt=100A/μs	----	13	---	nS
Qrr	Reverse Recovery Time		---	15	---	nC

Notes:

1.Repetitive Rating : Pulsed width limited by maxi mum junction temperature.
2.The data tested by pulsed , pulse width ≦ 300us , duty cycle ≦ 2%.
3.Essentially independent of operating temperature .

Typical Characteristics

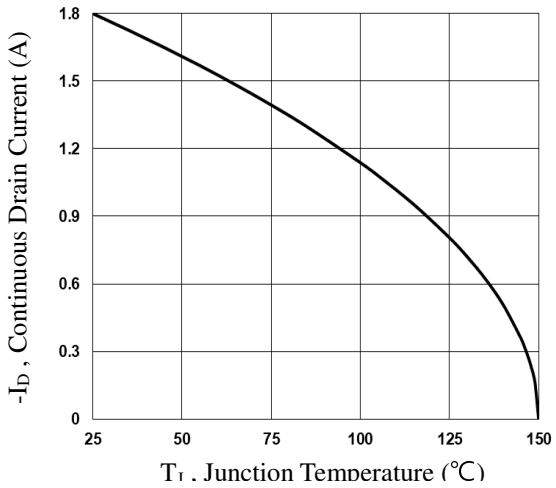


Fig.1 Continuous Drain Current vs. T_J

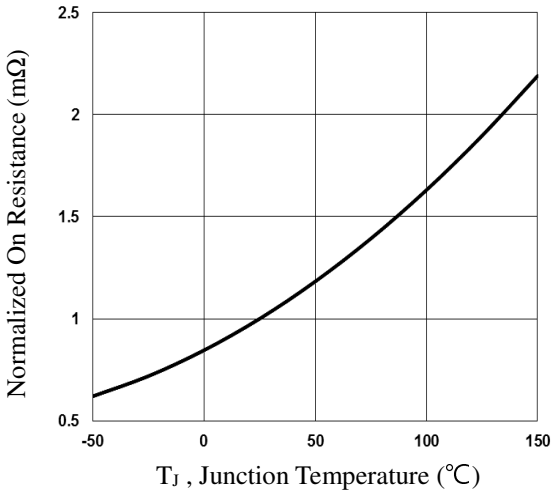


Fig.2 Normalized RDSON vs. T_J

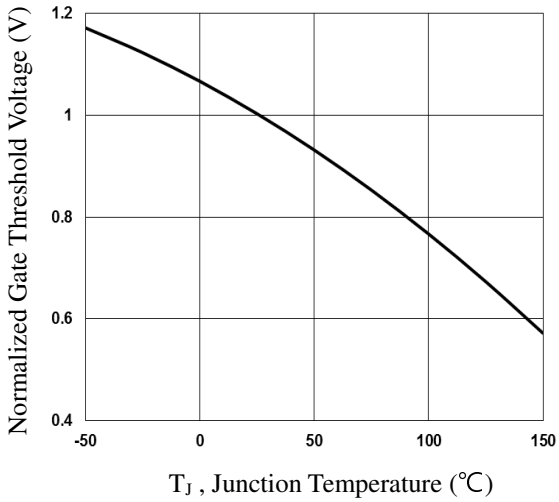


Fig.3 Normalized V_{th} vs. T_J

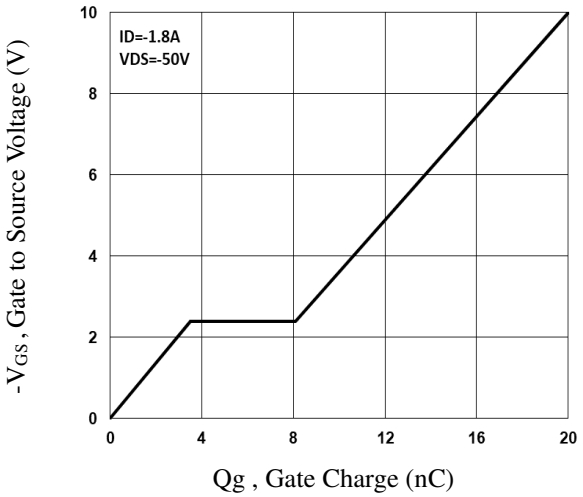


Fig.4 Gate Charge Waveform

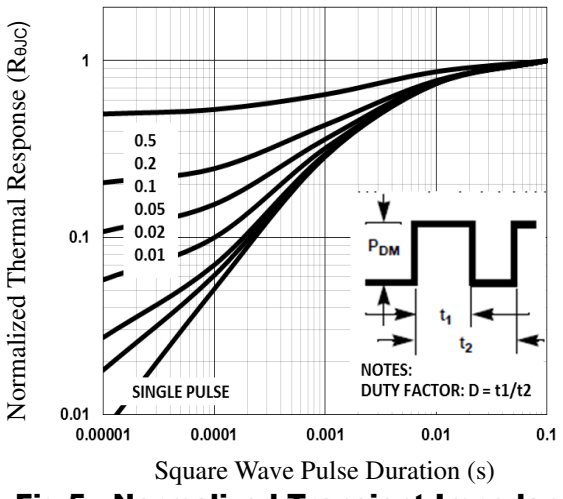


Fig.5 Normalized Transient Impedance

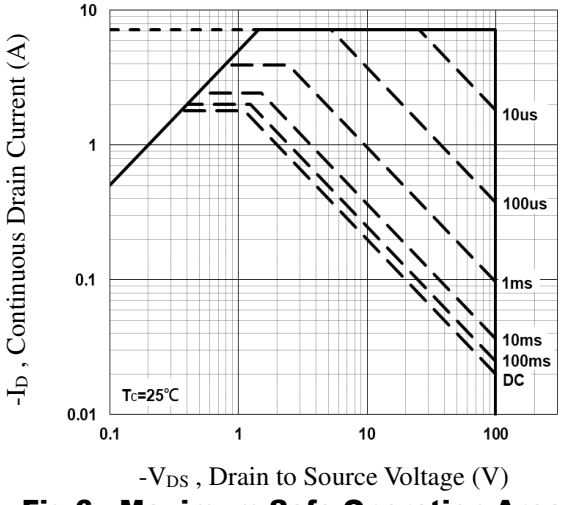


Fig.6 Maximum Safe Operation Area